



UNITED STATES PATENT AND TRADEMARK OFFICE

CR
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,489	07/17/2001	Shinji Koike	173-01	4101
7590	06/06/2003			
Paul & Paul 2900 Two Thousand Market Street Philadelphia, PA 19103			EXAMINER	
			ROSS, DANA	
		ART UNIT	PAPER NUMBER	
		3722		
DATE MAILED: 06/06/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

	Application No.	Applicant(s)
	09/889,489	KOIKE, SHINJI
Examiner	Art Unit	
Dana Ross	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 July 2001.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 8-10 is/are allowed.

6) Claim(s) 1-3, 5 and 6 is/are rejected.

7) Claim(s) 4 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Faxing of Responses to Office Actions

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302 or, for responses after final rejection only, to (703) 872-9303. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Information Disclosure Statement

2. The information disclosure statement filed December 9, 2002 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the foreign documents do not contain "A concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, of each patent, publication, or other information listed that is not in the English language. The concise explanation may be either separate from applicant's specification or incorporated therein." It has been placed in the application file, but the information provided (foreign documents with no translation) referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the

Art Unit: 3722

statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,662,568 (Lindem) in view of U.S. Pat. No. 5,564,483 (Sacchi). Lindem teaches a numerically controlled machine tool for machining a workpiece mounted on a workpiece support unit by moving a spindle having a tool mounted thereon in directions along an x-axis, a y-axis and a z-axis with respect to the workpiece (col. 1, lines 5-10) comprising; a spindle support structure 38 including a base 15 adapted to be located on a floor surface (fig. 2) and having guides extending in the direction along the x-axis on the upper and lower portions thereof, an x-

axis slider guided along the guides on the upper and lower portions of said base to move from side to side in the direction along the x-axis (col. 5, lines 11-12), a y-axis slider guided to move upwardly and downwardly in the direction along the y-axis on said x-axis slider (col. 5, lines 12-14), a z-axis slider guided to move forwardly and backwardly in the direction along the z-axis on said y-axis slider (col. 5, lines 14-15), and a spindle 78 fixedly mounted on said z-axis slider or mounted to be rotatable in at least one of directions along an a-axis, a b-axis and a c-axis (fig. 1, col. 6, lines 18-29). Lindem also discloses a workpiece support structure 34 (col. 6, line 26, fig. 1) and a chip fan (col. 8, lines 6-10).

Lindem discloses the claimed invention except for a workpiece support structure including a base having shaft support means, and a chip discharge means located between the spindle support structure and workpiece support structure.

Sacchi teaches a unit workpiece support structure including a base 8 having shaft support means 42 located at the opposing ends thereof along the x-axis (fig. 1, 6 and col. 8, lines 3-6), and a workpiece mounting table 4 supported by said shaft support means to allow for rotational indexing about a horizontal axis extending in the direction along the x-axis, said workpiece mounting table having at least one workpiece mounting surface (Fig. 1 and 2, col. 5, lines 7-9); and a chip discharge means located between said spindle support structure and said workpiece support structure for discharging chips produced in the machining area to the outside of the machining area (fig. 1 and 8, col. 3, lines 66- col. 4 line 1, col. 5, lines 17-25, col. 6, lines 19-28). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lindem to include the workpiece support structure including a base having shaft support means, and a chip discharge means located between the spindle support structure

and workpiece support structure as taught by Sacchi for the purpose of clearing waste and chips generated by machining from the table and the work (see Sacchi Abstract).

In regard to claim 2, Sacchi teaches a workpiece support structure comprising an extended workpiece support structure having a plurality of workpiece support structure units coupled to each other along the x-axis with the horizontal axes thereof aligned, said workpiece support structure having a predetermined x-axis unit length (col. 4, lines 36-41, fig. 4). Lindem in view of Sacchi teaches all aspects of the claimed invention except for the multiple spindle support structures. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a plurality of spindle support structures as taught by Lindem with the plurality of workpiece support structures as taught by Sacchi, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

In regard to claim 3, Lindem teaches a numerically controlled machine tool wherein the x-axis slider of the spindle support structure is driven in the direction along the x-axis by linear motors 108 disposed along said guide on the upper and lower portions of the base (fig. 3, col. 5, lines 15-18), respectively, and the linear motors include a stator and a mover arranged on the base and the x-axis slider, respectively, in opposed relation to each other so that an attraction force of said stator acting on said mover reduces the load in gravitational direction exerted on the guide of the x-axis slider (col. 5, lines 15-23 and col. 9, line 66 - col. 10 lines 7-33).

In regard to claim 5, Sacchi teaches the workpiece mounting table 4 of said workpiece support structure 34 is formed into a shape of a substantially triangle pole having three

Art Unit: 3722

workpiece mounting surfaces extending in parallel to the horizontal axis in the direction along the x-axis (col. 7, line 65 – col. 8, lines 1-6, fig. 5).

In regard to claim 6, Sacchi teaches the workpiece support structure is provided with a pushing means 100 for holding the workpiece in an indexed position located between the bottom of said workpiece mounting table 4 and the base for imparting a sideways pushing force on said workpiece mounting table 4 (fig. 2, col. 4, line 65 – col. 5, line 6). Sacchi discloses the claimed invention except for the pushing force upwards. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to impart the pushing force upwards to hold the workpiece in an indexed position, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lindem to include the workpiece support structure including a base having shaft support means, and a chip discharge means located between the spindle support structure and workpiece support structure as taught by Sacchi for the purpose of clearing waste and chips generated by machining from the table and the work (see Sacchi Abstract).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,662,568 (Lindem) in view of U.S. Pat. No. 5,564,483 (Sacchi) in further view of U.S. Pat. No. 5,301,788 (Hironaka et al.). Lindem and Sacchi teach all aspects of the claimed invention except for the pallet changing means. See claim 1 rejection above. Hironaka et al. teaches a pallet stocker 1 and an apparatus for transferring a pallet, which has been supplied with a workpiece by a pallet stocker and delivered on a pallet carriage, onto the table of a machine tool and positioning the pallet on the table (col. 1, lines 7-11 and col. 3, lines 12-18). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify Lindem to include the workpiece support structure including a base having shaft support means, and a chip discharge means located between the spindle support structure and workpiece support structure as taught by Sacchi for the purpose of clearing waste and chips generated by machining from the table and the work (see Sacchi Abstract). It would have also have been obvious at the time the invention was made to modify Lindem to include the pallet changer means as taught by Hironaka et al. for the purpose of having transferring a workpiece which has been placed on a pallet by a pallet stocker onto a workpiece table for positioning of machining (see Hironaka col. 3, lines 12-18).

Allowable Subject Matter

7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 8-10 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record neither anticipates nor renders obvious a machine tool as claimed by applicant that includes the base of the spindle support structure provided with longitudinal spaces extending in the direction along the x-axis and opening downwardly in the upper and lower portions of the base with the guide located in each of the longitudinal spaces for guiding and supporting the x-axis slider, and an x-axis feed means located along the guide in each of the longitudinal spaces for moving the x-axis slider. The longitudinal spaces opening downwardly and the specifics of

the claimed feed means are critical to the design of machine tool as disclosed in Applicant's specification.

The closest prior art of record found is U.S. Pat. No. 5,662,568 (Lindem) which teaches all aspects of the machine tool except for the longitudinal spaces opening downwardly.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- U.S. Pat. No. 6,210,086 (Lecornet et al.)
- U.S. Pat. No. 5,172,464 (Kitamura et al.)
- U.S. Pat. No. 5,868,545 (Kasai et al.)
- U.S. Pat. No. 5,265,986 (Prokopp)
- U.S. Pat. No. 5,321,874 (Mills et al.)
- U.S. Pat. No. 4,921,378 (Kytol  , Olli)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is (703) 305-7764. The examiner can normally be reached on Mon-Fri 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159.

Art Unit: 3722

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

dmr
June 2, 2003


A. L. WELLINGTON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700